

Patent Claims

- 5 1. Surface-modified effect pigments based on flake-form substrates, characterised in that they are sheathed with one or more layers of immobilised LCST and/or UCST polymers.
- 10 2. Surface-modified effect pigments according to Claim 1, characterised in that the polymer sheath has layer thicknesses of 2 – 500 nm.
- 15 3. Surface-modified effect pigments according to Claim 1 or 2, characterised in that the LCST polymers are selected from the group consisting of the polyalkylene oxide derivatives, olefinically modified PEO-PPO copolymers, polymethyl vinyl ether, poly-N-vinylcaprolactams, ethyl(hydroxyethyl)celluloses, poly(N-isopropylacrylamides) and polysiloxanes, and mixtures thereof.
- 20 4. Surface-modified effect pigments according to Claim 1 or 2, characterised in that the UCST polymers are selected from the group consisting of the polystyrenes, polystyrene copolymers and polyethylene oxide copolymers, or mixtures thereof.
- 25 5. Surface-modified effect pigments according to one of Claims 1 to 3, characterised in that the LCST polymer is a polysiloxane modified with olefinic groups.
- 30 6. Surface-modified effect pigments according to one of Claims 1 to 5, characterised in that the polymer sheath additionally comprises nanoparticles, polymerisable monomers, plasticisers, antioxidants, carbon-black particles, microtitantium or mixtures thereof.
- 35 7. Surface-modified effect pigments according to Claim 6, characterised in that the polymer sheath comprises 0.001 to 150% by weight of additives, based on the polymer employed.
8. Surface-modified effect pigments according to one of Claims 1 to 7, characterised in that the effect pigments are holographic pigments,

pearlescent pigments, interference pigments, multilayered pigments, metal-effect pigments, goniochromatic pigments and/or BiOCl pigments.

- 5 9. Surface-modified effect pigments according to Claim 8, characterised in that the effect pigments are based on natural or synthetic mica, Al₂O₃ flakes, TiO₂ flakes, SiO₂ flakes, Fe₂O₃ flakes, glass flakes, ceramic flakes or graphite flakes.
- 10 10. Process for the production of surface-modified effect pigments according to Claim 1, characterised in that the LCST and/or UCST polymer is applied to the pigment surface by precipitation in water and/or an organic solvent and and irreversibly immobilised.
- 15 11. Process according to Claim 10, characterised in that conventional additives are added to the polymer.
12. Use of the surface-modified effect pigments according to Claim 1 in surface coatings, water-borne coatings, powder coatings, paints, printing inks, security printing inks, plastics, concrete, in cosmetic formulations, in agricultural sheeting and tarpaulins, for the laser marking of papers and plastics, as light protection, as pigment for corrosion protection and for the preparation of pigment compositions and dry preparations.
- 20 13. Formulations comprising the surface-modified effect pigments according to Claim 1.

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